



FARM PLANNING GUIDE 1991 CROP ESTIMATES

91-03138/

Information Update

DATE: January, 1991

The projected crop costs enclosed in these two budgets have been prepared to assist you in developing **your own** production costs. The budgets assume continuous cropping.

The cash cost inputs associated with growing a crop in Manitoba are substantial. It is extremely important for a farm manager to do detailed calculations if he is to select the optimum crop combination that will maximize profits. Detailed planning is also necessary when estimating the amount of operating credit required to finance the inputs. The importance of good financial management can be emphasized by noting that a 400 hectare (1000 acre) farm requires somewhere in the vicinity of \$90,000 for cash inputs alone.

The following budgets are estimates of the cost of producing several different crops in 1991. General departmental recommendations are assumed in using fertilizers and chemical inputs. The figures provide an economic evaluation of the crops and estimate the yields required to cover all costs plus give a return to labor, management and investment. To estimate a cash flow budget the actual payments on principal and interest may be substituted for the fixed costs. As well, an estimate has to be made of family living costs, funds required for capital purchases and a cost analysis of livestock enterprises on the farm especially if your farm is not a straight grain farm.

These budgets may be adjusted by putting in your own figures. As a producer you are encouraged to calculate your own costs of production for various crops. On each farm, costs and yields differ due to soil type, climatic conditions, and agronomic practices.

CROP PRODUCTION COSTS 1991

	<u>Wheat</u>	<u>*Barley</u>	<u>Canola</u>	<u>Flax</u>	<u>Rye</u>
	\$	\$	\$	\$	\$
<u>OPERATING COSTS:</u>					
1) Seed & Treatment	15.12	14.58	35.97	19.80	11.06
2) Fertilizer	47.73	47.73	52.34	24.79	40.08
3) Chemicals	42.01	37.07	30.89	42.01	6.18
4) Fuel	24.71	24.71	24.71	24.71	24.71
5) Machinery Operating Costs	22.24	22.24	22.24	22.24	22.24
6) Crop Insurance	23.50	17.72	39.24	27.28	22.39
7) Other Costs	18.53	18.53	18.53	18.53	18.53
8) Land Taxes	12.36	12.36	12.36	12.36	12.36
9) Drying Costs	0.00	0.00	0.00	0.00	0.00
10) Interest on Operating	13.40	12.67	15.36	12.46	10.24
TOTAL OPERATING COSTS	219.60	207.61	251.64	204.18	167.79
<u>FIXED COSTS:</u>					
11) Land Investment Costs	70.05	70.05	70.05	70.05	70.05
12) Machinery Depreciation	24.71	24.71	24.71	24.71	24.71
13) Machinery Investment Cost	22.24	22.24	22.24	22.24	22.24
14) Storage Costs	7.46	7.46	7.46	7.46	7.46
15) Labor and Management	44.48	44.48	44.48	44.48	44.48
TOTAL FIXED COSTS	168.94	168.94	168.94	168.94	168.94
 TOTAL OPERATING & FIXED COSTS	 388.54	 376.55	 420.58	 373.12	 336.73

BREAKEVEN ANALYSIS

Price/Unit	\$110/t	\$83/t	\$265/t	\$217/t	\$67/t
Breakeven Yield for Operating Costs	1.996 t	2.501 t	950 kg	941 kg	2.504 t
Breakeven Yield for Total Costs	3.532 t	4.537 t	1.587 t	1.719 t	5.026 t

* To calculate the cost for growing oats, use the "barley" column and reduce the chemical cost by approximately \$7.42. All other costs remain similar to barley. Oats cannot be grown in a field where avadex was applied in the previous year. Herbicides cannot be used in oats to control wild oats.

GUIDELINES (DOLLARS PER HECTARE)

<u>Corn</u>	<u>Sunflowers</u>	<u>Peas</u>	<u>Lentils</u>	<u>Buckwheat</u>	<u>My Farm</u>
\$	\$	\$	\$	\$	
42.65	34.72	73.92	58.96	29.70	_____
78.43	56.12	37.57	37.57	52.69	_____
54.36	30.89	35.83	45.72	30.89	_____
27.18	25.95	25.95	24.71	24.71	_____
27.18	24.71	23.47	23.47	22.24	_____
33.04	17.42	26.69	44.75	48.21	_____
19.77	19.77	19.77	18.53	18.53	_____
16.06	12.36	16.06	12.36	12.36	_____
40.77	15.44	0.00	0.00	0.00	_____
22.06	15.43	16.85	17.29	15.56	_____
361.50	252.81	276.11	283.36	254.89	_____
113.20	70.05	113.20	70.05	70.05	_____
32.12	27.18	25.95	25.95	24.71	_____
28.91	24.46	23.35	23.35	22.24	_____
14.93	7.46	7.46	7.46	7.46	_____
44.48	44.48	44.48	44.48	44.48	_____
233.64	173.63	214.44	171.29	168.94	_____
595.14	426.44	490.55	454.65	423.83	_____

PER HECTARE YIELDS

\$118/t	\$265/t	\$175/t	\$375/t	\$218/t	_____
3.064 t	.954 t	1.578 t	756 kg	1.169 kg	_____
5.044 t	1.609 t	2.803 t	1.212 t	1.944 t	_____

CROP PRODUCTION COSTS 1991

	<u>Wheat</u>	<u>*Barley</u>	<u>Canola</u>	<u>Flax</u>	<u>Rye</u>
<u>OPERATING COSTS:</u>	\$	\$	\$	\$	\$
1) Seed & Treatment	6.25	6.00	15.20	8.00	4.38
2) Fertilizer	19.49	19.49	21.35	10.20	16.50
3) Chemicals	17.00	15.00	12.50	17.00	2.50
4) Fuel	10.00	10.00	10.00	10.00	10.00
5) Machinery Operating Costs	9.00	9.00	9.00	9.00	9.00
6) Crop Insurance	9.51	7.17	15.88	11.04	9.06
7) Other Costs	7.50	7.50	7.50	7.50	7.50
8) Land Taxes	5.00	5.00	5.00	5.00	5.00
9) Drying Costs	0.00	0.00	0.00	0.00	0.00
10) Interest on Operating	5.44	5.15	6.27	5.05	4.16
TOTAL OPERATING COSTS	89.19	84.31	102.70	82.79	68.10
<u>FIXED COSTS:</u>					
11) Land Investment Costs	28.35	28.35	28.35	28.35	28.35
12) Machinery Depreciation	10.00	10.00	10.00	10.00	10.00
13) Machinery Investment Cost	9.00	9.00	9.00	9.00	9.00
14) Storage Costs	3.02	3.02	3.02	3.02	3.02
15) Labor and Management	18.00	18.00	18.00	18.00	18.00
TOTAL FIXED	68.37	68.37	68.37	68.37	68.37
 TOTAL COST	 157.56	 152.68	 171.07	 151.16	 136.47

BREAKEVEN ANALYSIS

Price/Unit	\$3.00/bu	\$1.80/bu	\$6.00/bu	\$5.50/bu	\$1.70/bu
(or per Per Tonne Equivalent)	\$110.00/t	\$ 83.00/t	\$265.00/t	\$217.00/t	\$67.00/t
Breakeven Yield					
for Operating Costs	29.7 bu	46.8 bu	17.1 bu	15.1 bu	40.1 bu
Breakeven Yield					
for Total Costs	52.5 bu	84.8 bu	28.5 bu	27.5 bu	80.3 bu

* To calculate the cost for growing oats, use the "barley" column and reduce the chemical cost by approximately \$3.00. All other costs remain similar to barley. Oats cannot be grown in a field where avadex was applied in the previous year. Herbicides cannot be used in oats to control wild oats.

GUIDELINES (DOLLARS PER ACRE)

<u>Corn</u>	<u>Sunflowers</u>	<u>Peas</u>	<u>Lentils</u>	<u>Buckwheat</u>	<u>My Farm</u>
\$	\$	\$	\$	\$	
23.00	13.50	30.00	24.00	12.00	_____
31.80	22.95	15.10	15.10	21.30	_____
22.00	12.50	14.50	18.50	12.50	_____
11.00	10.50	10.50	10.00	10.00	_____
11.00	10.00	9.50	9.50	9.00	_____
13.37	7.05	10.80	18.11	19.51	_____
8.00	8.00	8.00	7.50	7.50	_____
6.50	5.00	6.50	5.00	5.00	_____
16.50	6.25	0.00	0.00	0.00	_____
9.31	6.22	6.82	7.00	6.29	_____
152.48	101.97	111.72	114.71	103.10	_____
45.81	28.35	45.81	28.35	28.35	_____
13.00	11.00	10.50	10.50	10.00	_____
11.70	9.90	9.45	9.45	9.00	_____
6.04	3.02	3.02	3.02	3.02	_____
18.00	18.00	18.00	18.00	18.00	_____
94.56	70.27	86.78	69.32	68.37	_____
247.04	172.24	198.50	184.03	171.47	_____

PER ACRE YIELDS

\$3.00/bu. \$118.00/t	\$.12/lb. \$265.00/t	\$4.75/bu. \$175.00/t	\$0.17/lb \$375.00/t	\$4.75/bu \$218.00/t	_____
50.8 bu.	850 lb.	23.5 bu.	675 lb.	21.7 bu.	_____
82.3 bu.	1435 lb.	41.8 bu.	1083 lb.	36.1 bu.	_____

CROP BUDGET ASSUMPTIONS

1) Seed & Treatment

Per Hectare

<u>Crop</u>	<u>Rate/ha</u>	<u>Price/Unit</u>	<u>Cost/ha</u>
Wheat	84 kg	\$ 0.18/kg	\$15.12
Barley	81 kg	\$ 0.18/kg	\$14.58
* Canola	7 kg	\$ 2.43/kg	\$17.01
Flaxseed	45 kg	\$ 0.44/kg	\$19.80
Rye	79 kg	\$ 0.14/kg	\$11.06
Corn	56,865 plants	\$80.00/80,000	\$42.65
Sunflowers	7 kg	\$ 4.96/kg	\$34.72
Peas	168 kg	\$ 0.44/kg	\$73.92
Lentils	67 kg	\$ 0.88/kg	\$58.96
Buckwheat	54 kg	\$ 0.55/kg	\$29.70

* Canola Seed treatment cost is an additional cost: \$18.96/hectare.

Per Acre

<u>Crop</u>	<u>Rate/acre</u>	<u>Price/Unit</u>	<u>Cost/ac</u>
Wheat	1.25 bu.	\$ 5.00/bu.	\$ 6.25
Barley	1.5 bu.	\$ 4.00/bu.	\$ 6.00
* Canola	6 lbs.	\$ 1.10/lb.	\$ 6.60
Flaxseed	40 lbs.	\$ 0.20/lb.	\$ 8.00
Rye	1.25 bu.	\$ 3.50/bu.	\$ 4.38
Corn	23,000 plants	\$80.00/80,000	\$23.00
Sunflowers	6 lbs.	\$ 2.25/lb.	\$13.50
Peas	2.5 bu.	\$12.00/bu.	\$30.00
Lentils	60 lbs.	\$ 0.40/lb.	\$24.00
Buckwheat	1 bu.	\$12.00/bu.	\$12.00

* Canola Seed treatment cost is an additional cost: \$8.60/acre.

2) Fertilizer Price/kg	Nitrogen 37¢ \$		Phosphorous 51¢ \$		Potash 29¢ \$		Sulfur 46¢ \$		Cost/ ha(\$)
	----- Per Hectare -----								
<u>Crop:</u>	<u>kg</u>	<u>Cost</u>	<u>kg</u>	<u>Cost</u>	<u>kg</u>	<u>Cost</u>	<u>kg</u>	<u>Cost</u>	<u>Cost</u>
Wheat	78	28.86	37	18.87	0	0.00	0	0.00	47.73
Barley	78	28.86	37	18.87	0	0.00	0	0.00	47.73
Canola	90	33.30	22	11.22	0	0.00	17	7.82	52.34
Flaxseed	67	24.79	0	0.00	0	0.00	0	0.00	24.79
Rye	78	28.86	22	11.22	0	0.00	0	0.00	40.08
Corn	101	37.37	45	22.95	45	13.05	11	5.06	78.43
Sunflowers	67	24.79	39	19.89	22	6.38	11	5.06	56.12
Peas	0	0.00	39	19.89	34	9.86	17	7.82	37.57
Lentils	0	0.00	39	19.89	34	9.86	17	7.82	37.57
Buckwheat	62	22.94	39	19.89	34	9.86	0	0.00	52.69

2) Fertilizer Price/lb	Nitrogen 17¢ \$		Phosphorous 23¢ \$		Potash 13¢ \$		Sulfur 21¢ \$		Cost/ acre(\$)
	----- Per Acre -----								
<u>Crop:</u>	<u>lbs.</u>	<u>Cost</u>	<u>lbs.</u>	<u>Cost</u>	<u>lbs.</u>	<u>Cost</u>	<u>lbs.</u>	<u>Cost</u>	<u>Cost</u>
Wheat	70	11.90	33	7.59	0	0.00	0	0.00	19.49
Barley	70	11.90	33	7.59	0	0.00	0	0.00	19.49
Canola	80	13.60	20	4.60	0	0.00	15	3.15	21.35
Flaxseed	60	10.20	0	0.00	0	0.00	0	0.00	10.20
Rye	70	11.90	20	4.60	0	0.00	0	0.00	16.50
Corn	90	15.30	40	9.20	40	5.20	10	2.10	31.80
Sunflowers	60	10.20	35	8.05	20	2.60	10	2.10	22.95
Peas	0	0.00	35	8.05	30	3.90	15	3.15	15.10
Lentils	0	0.00	35	8.05	30	3.90	15	3.15	15.10
Buckwheat	55	9.35	35	8.05	30	3.90	0	0.00	21.30

Note: Fertilizer rates as recommended by the University of Manitoba under normal conditions.

3) Chemicals:

CROP	PER HECTARE				TOTAL COST/Ha \$
	PRE-EMERGENCE HERBICIDES \$/Ha	POST-EMERGENCE BROADLEAF HERBICIDES \$/Ha	WILD OATS MILLET HERBICIDES \$/Ha	INSECTICIDES FUNGICIDES \$/Ha	
Wheat	0.00	11.12	30.89	0.00	42.01
Barley (1)	0.00	6.18	30.89	0.00	37.07
Canola (1)	0.00	0.00	30.89	0.00	30.89
Flaxseed	0.00	11.12	30.89	0.00	42.01
Rye (2)(3)	0.00	6.18	0.00	0.00	6.18
Corn	0.00	8.65	45.71	0.00	54.36
Sunflowers	0.00	0.00	30.89	0.00	30.89
Peas	0.00	4.94	30.89	0.00	35.83
Lentils	0.00	14.83	30.89	0.00	45.72
Buckwheat	0.00	0.00	30.89	0.00	30.89

- (1) Fungicide Treatment \$54.34 Not included in the budget on pages 2 and 3.
 (2) Pre-Emergence part band \$29.64 Not included in the budget on pages 2 and 3.
 (3) Corn Borer Treatment \$24.25 Not included in the budget on pages 2 and 3.

CROP	PER ACRE				TOTAL COST/AC \$
	PRE-EMERGENCE HERBICIDES \$/Ac	POST-EMERGENCE BROADLEAF HERBICIDES \$/Ac	WILD OATS MILLET HERBICIDES \$/Ac	INSECTICIDES FUNGICIDES \$/Ac	
Wheat	0.00	4.50	12.50	0.00	17.00
Barley (1)	0.00	2.50	12.50	0.00	15.00
Canola (1)	0.00	0.00	12.50	0.00	12.50
Flaxseed	0.00	4.50	12.50	0.00	17.00
Rye (2)(3)	0.00	2.50	0.00	0.00	2.50
Corn	0.00	3.50	18.50	0.00	22.00
Sunflowers	0.00	0.00	12.50	0.00	12.50
Peas	0.00	2.00	12.50	0.00	14.50
Lentils	0.00	6.00	12.50	0.00	18.50
Buckwheat	0.00	0.00	12.50	0.00	12.50

- (1) Fungicide Treatment \$22.00 Not included in the budget on pages 4 and 5.
 (2) Pre-Emergence part band \$12.00 Not included in the budget on pages 4 and 5.
 (3) Corn Borer Treatment \$11.00 Not included in the budget on pages 4 and 5.

4) Fuel Costs:

Includes fuel used for field work, trucking inputs in and products out, and travel for farm business purposes.

5) Machinery & Operating Costs:

Includes costs for maintenance, repairs, licences and insurance.

6) Crop Insurance: (1991 rates)

Risk Area #6 at the average coverage dollar rate on a "B" soil zone plus hail spot loss and additional hail insurance at \$100/acre coverage for wheat, barley, canola, flax and rye.

Risk Area #11 at the high coverage dollar rate on a "B" soil zone plus hail spot loss and additional insurance, at \$100/acre coverage for sunflowers, peas, lentils, buckwheat, beans and Corn Area A.

7) Other Costs:

Includes overhead expenses - hydro, telephone, accounting, building and supplies insurance, etc.

8) Land Taxes

The average for the province was based on land tax assessment and mill rates of a sample of municipalities growing crops less provincial tax rebate. Budget assumes \$12.36/ha (\$5.00/acre) except for corn and peas which are normally grown on higher productive land where land taxes are estimated at \$16.06/ha (\$6.50/acre).

9) Drying Costs:

Budget allocates costs only for corn and sunflowers. However, drying costs may be incurred in some years for other crops.

10) Interest On Operating

Interest charges on operating costs are calculated at 13% for six months.

11) Land Investment Cost:

Land values are based on the three-year average land sale values in Manitoba; except for corn and peas where the average land sale values were those reported in crop District #8. Assumed 9% return on land investment.

12) Depreciation:

Assumed 10% depreciation, no salvage value.

13) Investment Cost:

9% opportunity cost on the machinery investment per hectare or acre by crop.

PER HECTARE

Crop	Land Investment Per Ha(\$)	Land Investment Cost(\$)	Machinery Investment Per Ha(\$)	Machinery Depreciation Cost(\$)	Machinery Investment Cost(\$)
Wheat	778.00*	70.05	247.10	24.71	22.24
Barley	778.00*	70.05	247.10	24.71	22.24
Canola	778.00*	70.05	247.10	24.71	22.24
Flaxseed	778.00*	70.05	247.10	24.71	22.24
Rye	778.00*	70.05	247.10	24.71	22.24
Corn	1,258.00**	113.20	321.23	32.12	28.91
Sunflowers	778.00*	70.05	271.81	27.18	24.46
Peas	1,258.00**	113.20	259.46	25.95	23.35
Lentils	778.00*	70.05	259.46	25.95	23.35
Buckwheat	778.00*	70.05	247.10	24.71	22.24

PER ACRE

Crop	Land Investment Per Acre(\$)	Land Investment Cost(\$)	Machinery Investment Per Acre(\$)	Machinery Depreciation Cost(\$)	Machinery Investment Cost(\$)
Wheat	315.00*	28.35	100.00	10.00	9.00
Barley	315.00*	28.35	100.00	10.00	9.00
Canola	315.00*	28.35	100.00	10.00	9.00
Flaxseed	315.00*	28.35	100.00	10.00	9.00
Rye	315.00*	28.35	100.00	10.00	9.00
Corn	509.00**	45.81	130.00	13.00	11.70
Sunflowers	315.00*	28.35	110.00	11.00	9.90
Peas	509.00**	45.81	105.00	10.50	9.45
Lentils	315.00*	28.35	105.00	10.50	9.45
Buckwheat	315.00*	28.35	100.00	10.00	9.00

* Based on the three years average land value for the province.

** Based on the three years average land value for crop district 8.

13) Storage:

Assumed a 5% depreciation cost and 9% investment cost.

Farm storage requirements were assumed to be 30 bushels/acre costing \$1/bushel for 75% of the storage and \$1.25/bushel for 25% aerated storage.

Storage requirements for corn were calculated at 60 bushels/acre.

Example - Wheat

Depreciation	$\frac{\$30 - \$3}{20 \text{ years}}$	=	\$1.35
Investment	$\frac{\$30 + \$3}{2} \times 9\%$	=	\$1.49
	sub-total		\$2.84 X 75% = \$2.13
<u>Aeration Bins (1/4)</u>			
Depreciation	$\frac{\$37.50 - \$3.75}{20 \text{ years}}$	=	\$1.69
Investment	$\frac{\$37.50 + \$3.75}{2} \times 9\%$	=	\$1.86
	sub-total		\$3.55 X 25% = \$0.89
		TOTAL	<u>\$3.02</u>

14) Labor & Management

It depends upon the individual farm size, type of enterprises, and labor requirements.

Assumed cost - \$44.48 per hectare (\$18.00/acre).

This estimate could be equated to paid wages plus personal and family withdrawals from the farm business.

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FOR FURTHER INFORMATION SEE YOUR LOCAL MANITOBA AGRICULTURE OFFICE.